Australian Entomological Magazine

Aust. ent. Mag.

Volume 7, Part 3 November, 1980

NOTES ON SOME BUTTERFLIES FROM GLENBROOK, NEW SOUTH WALES

By T. J. Hawkeswood
Department of Botany, James Cook University, Townsville, Queensland 4811

Abstract

Notes on four species of butterfly feeding on sap from *Eucalyptus gummifera* at Glenbrook, New South Wales, during February 1977, are provided. A tachinid fly parasite, *Exorista* sp., from pupae of *Jalmenus evagoras evagoras* (Donovan) is recorded.

Introduction

The township of Glenbrook is situated about 70 km by road west of Sydney at an altitude of 163 m. It receives an average annual rainfall of about 80 cm and temperatures range broadly from 1°C to 40°C.

Much of the natural bushland in the immediate vicinity of Glenbrook has made way for residential development but there are still areas where fruitful entomological collecting can be undertaken. The present vegetation is a dry sclerophyll forest composed of at least five species of *Eucalyptus* and three species of *Angophora*, with species of *Acacia* (Mimosaceae), *Hakea, Banksia* and *Persoonia* (Proteaceae) and *Bossiaea, Oxylobium* and *Phyllota* (Fabaceae) composing the shrub layers.

Butterflies feeding on eucalypt sap

On 8th February 1977 two specimens of *Vanessa itea* (Fabricius), one male of *Polyura pyrrhus sempronius* (Fabricius), two females of *Heteronympha merope merope* (Fabricius) and one specimen of *Geitoneura klugii klugii* (Guérin-Méneville) were observed feeding simultaneously on the dark red-brown sap which had exuded from the trunk of a *Eucalyptus gummifera* (Gaertn.) Hochr. about 0.3 m from the ground. When disturbed, the specimens of *V. itea* closely circled the tree trunk several times reaching a height of some 2.5 m before rapidly flying to about 10 m and disappearing amongst the tree-top canopy. One *V. itea* returned to feed about four minutes later. The specimen of *P. p. sempronius*, when disturbed, rapidly flew at a height of 2-3 m over the shrub vegetation before disappearing and did not return. The specimens of *H. m. merope* and *G. k. klugii*, (two species which mainly frequent shady areas near the

ground) merely circled the tree several times when disturbed, before resting on the ground nearby for a period and afterwards returning to feed. When these two species were disturbed again they repeated this behaviour.

These observations are noteworthy since there appears to be little information at present available on adult behaviour exhibited by Australian butterflies. Three syndromes are noted here which may be related to escape behaviour: (a) rapid and direct flight by *Polyura*, (b) fast tree-trunk circling followed by rapid upward flight by *Vanessa* and (c) slow tree-trunk circling followed by resting in a camoflaged state in the shade of bushes by *Geitoneura* and *Heteronympha*. Although responses to natural predators have not been observed, it is likely that the behaviour exhibited by these butterflies could be effective against predation by animals such as birds. Further observations are necessary for a better understanding of this aspect of butterfly behaviour.

Parasite of *Jalmenus evagoras evagoras* (Donovan)

The parasitism of butterfly larvae by Diptera is well known and has been recorded many times, but Common and Waterhouse (1972, p. 32) note that remarkably little is known about the specific identity of the parasites involved.

In the Glenbrook area, larvae of *J. e. evagoras* feed on *Acacia falcata* (north of Glenbrook) and *A. decurrens* (in the Blue Mountains National Park, south of Glenbrook). On 17th February 1977, numerous larvae and pupae (attended by hundreds of black ants, presumably *Iridomyrmex*) were observed on a small bush of *A. falcata* (1.2 m high). Of thirteen pupae collected, three produced males and, ten days later, seven tachinid flies (*Exorista* sp.: Tachinidae: Goniinae: Exoristini) emerged from seven others. The three pupae remaining were parasitized but flies failed to emerge from them.

Unfortunately there is no modern treatment of the Australian Exoristini. Crosskey (1973) records the tachinid flies *Carcelia cosmophilae* (Curran) and *Exorista sorbillans* (Wiedemann) as parasites of *J. e. evagoras*, but Dr D. H. Colless (pers. comm.) believes that the name *sorbillans* was wrongly applied. Further research should reveal a great deal more information about tachinid parasites of Australian Lepidoptera.

Acknowledgements

I would like to thank Dr D. H. Colless, Division of Entomology, C.S.I.R.O., Canberra, for examining and identifying the tachinids, and Dr Colless and Mr M. S. Moulds for bringing to my attention the paper by Crosskey. I would also like to express my thanks to Mr J. D. O'Dea for critically examining the manuscript.

References

Common, I. F. B. and Waterhouse, D. F., 1972. *Butterflies of Australia.* Angus and Robertson, Sydney. 498 pp.

Crosskey, R. W., 1973. A conspectus of the Tachinidae (Diptera) of Australia, including keys to the supraspecific taxa and taxonomic and host catalogues. *Bull. Br. Mus. nat. Hist.* (Ent.) Suppl. 21: 1-221.